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ANTECEDENTS INFLUENCING THE SUSTAINED INTENTION TO UTILIZE GENERATIVE ARTIFICIAL INTELLIGENCE CHATBOTS WITHIN THE DOMAINS OF HOSPITALITY AND TOURISM

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Abstract: Generative artificial intelligence (GenAI) has evolved as a distinct aspect of artificial intelligence technology, with the lofty goal of imbuing robots with human-like reasoning and behavior. Although artificial intelligence and its applications, such as chatbots, have only recently been introduced, these technologies will soon become indispensable in the hospitality and tourism industries. It is imperative to understand the factors influencing tourists' intentions to persist in utilizing GenAI chatbots for hotel bookings and travel-related activities. Utilizing the framework of social cognitive theory, the present research examines the relationships among the strengths of GenAI chatbots, perceived advantage, technical self-efficacy, perceived personalization, and the intention to continue using chatbots. A survey was administered through the Prolific platform to gather data from a sample of 450 tourists residing in the United States of America. The collected data were subjected to analysis through partial least squares–based structural equation modeling utilizing SmartPLS 4 software. Our findings revealed that perceived advantage did not serve as the predominant catalyst for tourists' continued intention to engage with chatbots. Rather, our results suggest a nuanced understanding of user perceptions, wherein intrinsic factors (e.g., technical self-efficacy) and experiential benefits (e.g., perceived personalization) surpass traditional perceptions of technological superiority. Designers and developers ought to enhance chatbots that offer tourists tailored suggestions, complemented by visual elements such as images, videos, and virtual tours of recommended locations. Hospitality and tourism authorities should provide financial and information support for designers of GenAI technologies such as chatbots because chatbots could offer recommendations for booking inquiries, making reservations for accommodation and other facilities, and providing advices for travel places and tourism sites together with immediate and tailored information.

Keywords: generative artificial intelligence, chatbot, technical self-efficacy, personalization, intention, hospitality, tourism

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INTRODUCTION

Technology is a vital component of consumers' daily lives (Trakulmaykee et al., 2025; Wang et al., 2021). In line with this shift in consumer behavior, organizations are looking to use artificial intelligence applications to improve the quality of services provided to customers, resulting in more unique, positive, and personalized experiences (Allal-Cherif et al., 2021). Artificial intelligence can be described as a system's ability to successfully extract insights from external data and use learned knowledge to achieve certain goals and activities.

These algorithms are often classified as supervised, semi-supervised, or unsupervised (Kar et al., 2023). As humans began to use artificial intelligence in a variety of fields, organizations pioneered a new paradigm known as GenAI (Kim et al., 2025). The goal of GenAI is to create new and original content from training data. This content can take the shape of books, photos, music, or video. This may even be the plot of a film or an academic article. As a result, a variety of applications are available. Chatbots are one example of GenAI applications (Gupta et al., 2024).

GenAI has evolved as a distinct aspect of artificial intelligence technology, with the lofty goal of imbuing robots with human-like reasoning and behavior. Although artificial intelligence and its applications, such as chatbots, have only recently been introduced, these technologies will soon become indispensable in the hospitality and tourism industries (Buhalis & Moldavska, 2022). Artificial intelligence-powered chatbots, such as ChatGPT, have proven useful in hospitality

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and tourism. In addition to managing simple booking inquiries (Bulchand-Gidumal et al., 2024), obtaining travel information and making reservations for accommodations and other facilities (Kim et al., 2024), they can provide round-the-clock interactive customer service. They can also facilitate personalized and context-aware user experiences (Buhalis et al., 2023). Nevertheless, empirical studies concentrating on their use in hospitality and tourism-related activities are scarce (Kim et al., 2024). The application of GenAI in hospitality and tourism to reduce costs and improve service accuracy has been the topic of research (Majid et al., 2024; Wong et al., 2023).

The hotel sector is taking a closer look at artificial intelligence technologies because of their potential to improve guest experiences, increase operational efficiency, and spur business growth (Mariani & Baggio, 2022). According to Dwivedi et al. (2024), chatbots improve customer experience, staff productivity, and the delivery of precise query responses and are immediately applicable to the tourist and hospitality sectors. Persuasive technology integration with chatbots offers customized, interesting, and affordable services for hospitality and tourism (Kim et al., 2023). It also has a great deal of potential to improve hotel business performance and customer experience (Remountakis et al., 2023).

Chatbot designers and marketers should make sure that their creations are easy to use and beneficial for managing hospitality and tourism services and tour planning. In order to intelligently automate the hospitality and tourism business by offering real-time solutions, chatbot developers must make sure that their creations deliver trustworthy information. In order to give tourists the impression that chatbots are genuine, lively, and human-like, chatbot developers must also ensure that their creations possess anthropomorphic traits. To give tourists a user-friendly interface, chatbots should interact in multiple languages (Pillai & Sivathanu, 2020). Designers should also work on developing the next generation of chatbots so that the phrases adapt to the situation in which the chatbot is embedded. This is generally not done in current generations of chatbots; it is not uncommon to find chatbots that extract and present information directly from websites, books, or manuals without any adaptation. Moreover, new generations of chatbots are expected to generate their own custom phrases dynamically. They will need sophisticated language engines that are able to dynamically adapt their conversational history to changing situational parameters in the context of hospitality and tourism (Chaves et al., 2022).

Given that GenAI chatbots are still in their infancy, it makes sense and is relevant to investigate how they can cause a radical revolution in hospitality and tourism (Law et al., 2024). Given the existing paucity of research exploring the potential of such tools to usher in new prospects within this field, this undertaking assumes significant significance (Wong et al., 2023). Previous research has primarily concentrated on the overall function of chatbots in hospitality and tourism (Law et al., 2024). However, this study tries to offer a comprehensive and empirical understanding of how tourists view and interact with chatbots, especially with regard to chatbots benefits and their intentions to keep using it for travel-and hospitality-related services. Importantly, as far as we know, no previous studies have looked into the experience and plans for continued usage of GenAI by tourists. As such, a thorough examination of various viewpoints is necessary. Tourists' satisfaction and their continuance intention to use chatbots in the context of hospitality and tourism have received little attention in existing research (Pham et al., 2024), despite the importance of understanding initial artificial intelligence adoption and acceptance (Solomovich & Abraham, 2024). Thus, it is essential to comprehend not only early adoption but also user pleasure and ongoing usage throughout time in order to fully grasp GenAI's potential (Duong et al., 2024).

Following an analysis of the literature on chatbots and artificial intelligence, the following research gaps were found. First, there has only been a handful of extremely recent research on the effects of GenAI chatbots on hospitality and tourism since the introduction of chatbots (e.g., Gursoy et al., 2023). Consequently, there haven't been many empirical attempts to create theories and evaluate conceptual models in hospitality and tourism (e.g., Limna & Kraiwanit, 2023). Second, chatbots and other artificial intelligence-powered technologies are developing quickly (Remountakis et al., 2023), and their limitations and capabilities could alter later (Carvalho & Ivanov, 2024). Therefore, monitoring how users behave with this evolving technology could assist in guaranteeing that users continue to have valuable experiences.

The adoption and effects of GenAI are the main topics of the current study, with a focus on hospitality and tourism. This research offers a roadmap for comprehending the processes via which GenAI affects the tourist experience. Moreover, GenAI technologies' novelty and dynamic nature demand a proactive approach to conceptual exploration. In light of the swift progress and revolutionary possibilities of artificial intelligence in hospitality and tourism, this investigation acts as a trigger for encouraging additional investigation in this domain (Gupta et al., 2024).

The current study helps deepen our understanding of the factors that may influence how tourists interact with GenAI chatbots. Additionally, the current research provides a set of implications and recommendations to enhance chatbot design, helps system designers and developers of artificial intelligence-based chatbot solutions, as well as practitioners, managers, and executives in the hospitality and tourism sectors, understand factors that lead to tourists' acceptance of chatbots and support continuance intention to use (Pillai & Sivathanu, 2020); thereby ensuring a distinctive and favorable client experience in hospitality and tourism. In conclusion, drawing on the social cognitive theory (Guan et al., 2024; Gupta et al., 2024; Khan et al., 2024), our study aims to investigate the association among GenAI chatbot strengths, perceived advantage, technical self-efficacy, perceived personalization, and GenAI chatbot continuance intention to use from the perspective of tourists in the United States of America who used GenAI chatbot for booking hotels and travel purposes.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Social cognitive theory

An interesting opportunity for a thorough examination of the intricate, multi-layered relationship between human cognition, behavior, and environment is presented by the combination of social cognitive theory and artificial intelligence. Social cognitive theory emphasizes how contextual beliefs, self-efficacy, and social learning influence behavioral

decisions. Some forms of social intelligence can be mimicked and even enhanced by artificial intelligence with its sophisticated machine learning algorithms and data models (Khan et al., 2024). The central concept of social cognitive theory is self-efficacy, which Bandura and Cervone (1986) define as the assessments of one's ability to carry out the courses of action necessary to deal with potential scenarios. The idea argues that the most important component influencing behavioral change is self-efficacy since it promotes the development of coping mechanisms. Self-efficacy is defined as the assessment of one's capacity to use technology to carry out a specific job or task (Compeau & Higgins,1995).

In order to investigate whether attitudes toward artificial intelligence are related to outcomes like self-efficacy and intention to use artificial intelligence technologies, this study is based on social cognitive theory. Social cognitive theory holds that expectations for future performance-related and personally advantageous consequences have an impact on a user's behavior. Expectations for both outcomes were influenced by self-efficacy (Gupta et al., 2024). In social cognitive theory for artificial intelligence, behavior modeling and learning play a significant role. Imitation learning—a method by which someone picks up new behavior just by watching others—is highly valued in social cognitive theory (Bandura, 1986). Artificial intelligence has great promise for shedding light on cognition and behavior modeling because of its proficiency in sifting through massive datasets and identifying patterns in behavior. Artificial intelligence technology, such as chatbots and virtual agents, can be programmed to use social cues, persuasive messaging that is customized for each user, and social support in order to encourage positive behavior or speed up the process of changing behavior (Gupta et al., 2024).

Social cognitive theory is a well-respected and significant theoretical framework that serves as the foundation for this investigation. According to social cognitive theory, conduct patterns, environmental variables (like the adoption of GenAI chatbots), and personal characteristics (like self-efficacy) interact comprehensively to determine human behavior (Priesemuth & Schminke, 2019). Based on social cognitive theory, people behave not only based on internal factors but also heavily influenced by external factors and social cues (Maialeh, 2019). The current research uses social cognitive theory as a framework in the context of GenAI chatbots in hospitality and tourism to study tourists' continuance intention of using GenAI chatbots. By presenting instances of positive interactions with the chatbot and offering feedback that reinforces these interactions, marketers can use the ideas of social cognitive theory to boost tourists' use of GenAI chatbots (Gupta et al., 2024). In this context, social cognitive theory places a strong emphasis on how tourists, their behavior, and their surroundings interact during the travel process (Bandura, 2014) thereby tourists actively participate in the travel process by establishing goals, evaluating perceived advantages and perceived personalization, and modifying their behavior in response to feedback rather than being passive consumers of information (Guan et al., 2024). This immersive activity, which is essentially a new kind of human-AI role play (Ivanov et al., 2024), may help tourists communicate and interact more successfully and confidently (Kohnke et al., 2023). The proposed research model and hypotheses assessed by our study are shown in Figure 1 below.

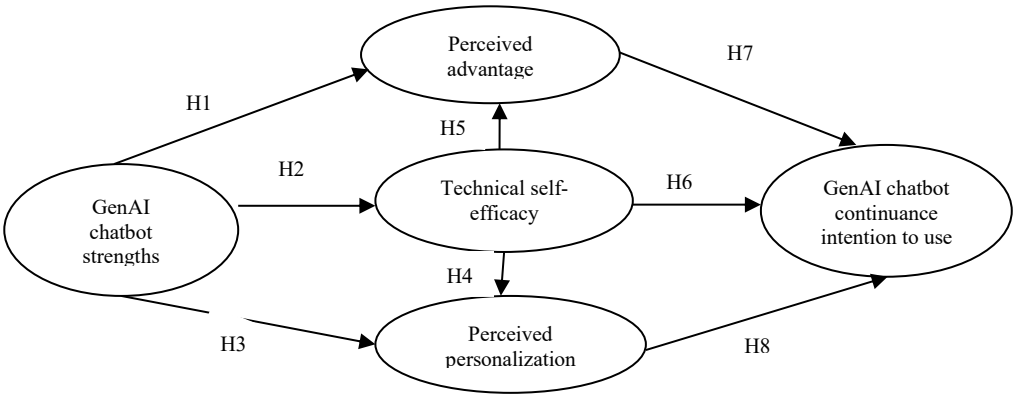

Figure 1. Proposed research model

Generative artificial intelligence chatbots

GenAI chatbots use algorithms that are trained to process and analyze large volumes of data using methods including statistical models, rule-based approaches, and deep learning. They then generate natural text responses for online users based on the information they receive (OECD, 2023). Accordingly, it is anticipated that virtual agent systems, like chatbots, will be used for 25% of customer support tasks (Moore, 2018). Due to the advancement of artificial intelligence, chatbots are becoming more common in e-commerce (Li & Wang, 2023), tourism (Pillai & Sivathanu, 2020), education (Ryong et al., 2024, hotels (Sheehan et al., 2020), SMEs (Selamat & Windasari, 2021), and online shopping (Kasilingam, 2020).

Prior literature focused on the topic of chatbots, including users' satisfaction and loyalty with chatbots (Hsu & Lin, 2023), attitude (Lin et al., 2022), customer service performance (Wang et al., 2022), trust (Jiang et al., 2023), engagement, and user behavior (Jiang et al., 2022). In the modern era of digital marketing and information systems, chatbots have become significant, particularly in customer service interactions that are changing from being human-driven to technology-dominant (Selamat & Windasari, 2021). The hospitality and tourism sectors are one area where chatbots have demonstrated their transformative potential (Law et al., 2024). The application of GenAI chatbots in hospitality and tourism is still in its infancy. Chatbots offer recommendations for travel places and tourism sites together with immediate and tailored information (Carvalho & Ivanov, 2024). For tourists, chatbots can serve as digital secretaries or assistants before, during,

and after their travels (Wong et al., 2023). GenAI chatbots are able to process data from several travel websites and provide cost-effective trip details and recommendations encompassing accommodation, dining, transportation, and attractions by assessing tourists' tastes and needs through their discussions and responses (Wong et al., 2023). In addition, tourists can use chatbots to learn more about group reservations and event-specific bookings, which will help them make more informed decisions. This platform may also provide travelers with personalized recommendations along with visual aids like pictures, videos, and virtual tours of suggested destinations (Dwivedi et al., 2024).

The increased level of interaction and experience among tourists is a major factor in both efforts to attract new visitors and keep existing ones (Carvalho & Ivanov, 2024). Businesses in hospitality and tourism have started experimenting with chatbots to enhance customer service interactions and delivery (Tussyadiah, 2020). In this context, chatbots provide particular uses for hospitality and tourism that improve client interactions (Zarezadeh et al., 2023). The ability of chatbots to provide accurate answers and efficiently handle common questions makes them unique (Wong et al., 2023). The rapid resolution of tourist inquiries through its inclusion in tourism service offers will enhance the overall visitor experience (Dwivedi et al., 2024). Chatbots can help tourists make well-informed judgments about which destinations to include on their schedule, as well as decisions about routes, modes of transportation, lodging, and even costs (Wong et al., 2023).

Generative artificial intelligence chatbot strengths and perceived advantage

The strengths of GenAI point to the many benefits it offers tourists, making them more positive towards adopting GenAI technologies, as positive attitudes are often based on positive perceptions of outcomes (Ivanov et al., 2024). Perceived advantage is the extent to which a tourist thinks a target system would improve his performance in an organizational setting (Lee et al., 2013). Additionally, perceived advantage is a reflection of end users' subjective likelihood that utilizing the new technology will improve their personal and organizational well-being (Phillips et al., 1994).

The incorporation of GenAI is crucial for improving visitor interactions and service efficiency in the hospitality and tourism sectors (Wong et al., 2023). According to Carvalho & Ivanov (2024), chatbots and virtual concierges offer prompt help, guaranteeing continuous and seamless interaction with visitors. Some of the functions they perform include information provision, order taking, reservation confirmation (check-in and check-out), and complaint handling. The dining experience can benefit from the use of GenAI models. By developing inventive recipes based on nutritional needs, they can help with menu planning and perhaps take dining to a whole new level of personalization and creativity (Wang, 2024).

Numerous potential advantages of GenAI have been identified including tailored learning experiences (Baidoo-Anu & Ansah, 2023). The theory of planned behavior posits that these perceived benefits will have a positive impact on attitudes toward GenAI because attitudes are frequently associated with an individual's positive or negative assessments of behavioral outcomes (Bosnjak et al., 2020). By supporting views about the viability of integrating this technology in hospitality and tourism services, the expected benefits of GenAI, such as the automation of labor-intensive jobs, may improve perceived behavioral control (Knauder & Koschmieder, 2019). The impact of GenAI chatbots on the online customer experience has been the subject of a few research (Verma et al., 2021). Chen et al. (2021) empirically examined the primary technology acceptance model (TAM) model-based predictors of online customer experience in the context of online commerce. The majority of their findings confirmed the critical role that perceived advantages play in consumers' cognitive or extrinsic experiences. According to social cognitive theory, the expectations for future performance-related and personally advantageous consequences have an impact on a user's behavior. So, chatbots can greatly assist service providers in molding client experiences and holding onto market share (Kushwaha et al., 2021).

Chatbots have the potential to forecast consumer attitudes and emotional and cognitive involvement, as well as their satisfaction and loyalty (Araujo, 2018). Kunze (2016) emphasized the importance of perceived advantage of GenAI through personalized services that chatbots might offer tourists by customizing recommendations and information according to their interests. On the basis of the arguments above, the following hypothesis is proposed:

H1. GenAI chatbot strengths have a significant effect on perceived advantage.

Generative artificial intelligence chatbot strengths and technical self-efficacy

Drawing on social cognitive theory, general self-efficacy represents people's overall ideas about their capacity to handle difficult circumstances (Bandura, 1986), while specific self-efficacy gauges confidence in specific activities or situations. Technical self-efficacy is individuals' confidence in their ability to learn and use a particular technology (Ajzen 2002) such as GenAI chatbots. The successful commercialization of service robotics requires knowledgeable and driven clients who are open to utilizing sophisticated automatism or artificial intelligence (Turja et al., 2019). The degree of interest in technology is connected with technical self-efficacy (Niederhauser & Perkmen, 2008). People who are motivated to utilize robots are more likely to be confident in their ability to learn this type of technology. According to Khan et al. (2024), using GenAI chatbots can improve one's confidence in one's ability to use artificial intelligence technology.

Nguyen et al. (2021) discovered, for instance, that using artificial intelligence chatbots boosts users' confidence in their ability to use artificial intelligence technology. In a similar vein, Puntoni et al. (2021) found that employing a virtual assistant with artificial intelligence increases users' self-efficacy, particularly when using artificial intelligence to retrieve information and e-commerce. In the area of religious tourism, research demonstrated a relationship between artificial intelligence trust and artificial intelligence self-efficacy. For example, Alam et al. (2023) found that travelers who relied on the virtual assistant to create their own itinerary for pilgrimage felt more secure about themselves when they traveled to a new sacred site. The study's findings are consistent with Klossner's review of technology adoption research (2022), which shows that users' technical self-efficacy for artificial intelligence-powered travel support

technologies is mostly shaped by artificial intelligence trust. Nguyen et al. (2021) found that employing artificial intelligence chatbot increases users' self-efficacy in navigating artificial intelligence technology. Similarly, Puntoni et al. (2021) reported that using an artificial intelligence virtual assistant elevates users' self-efficacy. Ivanov et al. (2024) found that strengths of GenAI have a positive effect on technical self-efficacy, where the efficiencies gained through GenAI are anticipated to bolster perceived control. Hence, the following hypothesis is proposed:

H2. GenAI chatbot strengths have a significant effect on technical self-efficacy.

Generative artificial intelligence chatbot strengths and perceived personalization

According to Baabdullah et al. (2022), perceived personalization is the feeling of individuals that the information and answers by GenAI chatbot are tailored to suit their requests and questions and make them feel like a unique customer. Canhoto et al. (2024) claimed that perceived personalization has a significant positive impact on customers. For example, perceived personalization helps SMEs reduce customer information overload and provides better decision matching for clients in terms of goods, services, communication, and personalized experiences. Moreover, Gao & Liu (2023) noted that perceived personalization positively affects SMEs' performance in terms of premium prices, a greater response rate, a devoted and pleased client base, and differentiation from competitors. Artificial intelligence concierges are excellent at personalizing and tailoring the tourist journey by utilizing deep neural networks and advanced machine learning algorithms, which are based on individual profiles and past actions (Deb et al., 2018). This entails using predictive analytics to take into consideration certain traits in addition to a thorough examination of the customer's past purchases to determine preferences.

This customized approach to personalization makes for a more memorable and individualized customer service experience (Liu et al., 2024). Personalized experiences can also be made with GenAI through producing personalized recommendations for dining alternatives, activities, and even room arrangements based on the analysis of individual preferences and previous interactions, so customizing each experience to a guest's distinct preferences (Wong et al., 2023). Intelligent data analysis is the key to customer relationship applications, which significantly increase consumer pleasure and loyalty (Peelen & Beltman, 2013). Numerous scholars have expressed their strong support for the significance of tourists' data analysis, with recent studies highlighting the transformative opportunity for enhancing both automation and personalization in customer interactions through the integration of GenAI into chatbot systems (Verma & Kumari, 2023). According to social cognitive theory, people act not only based on internal factors but also are greatly influenced by external factors and social signals (Maialeh, 2019).

Strengths of the GenAI chatbot such as answering follow-up questions and rejecting inappropriate requests (Ivanov et al., 2024) could make an individual perceive personalization or feel like a unique customer (Baabdullah et al., 2022). On the basis of the arguments mentioned above, the following hypothesis is proposed:

H3. GenAI chatbot strengths have a significant effect on perceived personalization.

Technical self-efficacy and perceived personalization

GenAI is perfect for communication since it can create personalized interactions with guests and carry out expressive duties (Brendlinger, 2023). For instance, GenAI chatbots can utilize natural language processing techniques to craft a personalized response based on the context of each customer inquiry by analyzing customer data (Athuraliya & Farook, 2018). This creates value for the customer by providing them with a personalized answer to their request or question instantly (Dogru et al., 2023). Similar to other artificial intelligence system types, chatbots can track user behavior and content with a high degree of personalization, which helps to predict user preferences and needs accurately (Kunze, 2016). According to Alalwan et al. (2020), personalization is one of the most engaging aspects of chatbots that provide customers with a distinctive and appealing experience. Stated differently, customers would find the chatbots' level of personalization to be much more in line with their expectations and inquiries, which would cause them to become more engaged in the interaction (Alalwan et al., 2020). According to a recent Statista study (2020) that mapped customer service agents' perceptions of chatbots, 64% of the agents believe that chatbots will primarily assist them in offering their clients a highly personalized service experience, which will ultimately impact their marketing and overall business performance. Social cognitive theory holds that expectations for future performance-related and personally advantageous consequences have an impact on a user's behavior (Gupta et al., 2024). GenAI chatbot can reach to design personalized strategies that treat each tourist or traveller as a unique segment (AIM, 2024). Based on the concept of technical self-efficacy, tourists can optimize their choices by comparing and evaluating the unique features of information and answers by GenAI chatbots (Ku & Chen, 2024). Hence, we propose:

H4. Technical self-efficiency has a significant effect on perceived personalization.

Technical self-efficacy and perceived advantage

Technology-specific self-efficacy is connected with the degree of interest in technology (Niederhauser & Perkmen, 2008), supporting the theory that self-efficacy is a component of cognitive motivation (Bandura, 1986). Wu et al.'s meta-analysis (2012) indicates that trust significantly influences each person's behavioral intentions. This is in line with Qin et al. (2020), who demonstrated how self-efficacy influences beliefs and behaviors. Furthermore, when people perceive artificial intelligence solutions as beneficial rather than detrimental, they are more likely to accept and implement artificial intelligence recommendations (Pillai et al., 2024). According to Jiang et al. (2022), increasing artificial intelligence self-efficacy can facilitate artificial intelligence adoption through the perceived advantage provided by GenAI chatbots.

Because social cognitive theory is predicated on the idea of technical self-efficacy, which appears to be particularly relevant to comprehending the relationship between users' perceptions of the perceived advantages of GenAI, we employed it in our work. According to social cognitive theory, people who have a high level of technological self-

efficacy are more inclined to search for the benefits and advantages of GenAI applications and accept them despite problems and obstacles (Kim & Beehr, 2017). Consequently, we proposed the following hypothesis:

H5. Technical self-efficiency has a significant effect on perceived advantage.

Technical self-efficacy and generative artificial intelligence chatbot continuance intention to use

According to Bhattacherjee (2001), users intend to stick with a technology until they find a substitute. This is known as continuance intention to use. The term continuance intention to use chatbots in our study refers to tourists' intention to keep using chatbots for both personal and professional tasks rather than use any alternative means (Lalicic & Weismayer, 2021). Tourists' intention to use chatbots was found to be highly impacted by perceived ease of use (Solomovich & Abraham, 2024), which was positively correlated with self-efficacy in using GenAI. We propose that the continuance intention to use GenAI in hospitality and tourism will be positively influenced by higher technical self-efficacy, which is a reflection of beliefs in one's ability to carry out a behavior (Knauder & Koschmieder, 2019).

Self-efficacy could impact users' behavioral usage activities and continuance intention (Malik & Rao, 2019). Nguyen & Ha (2021) studied how self-efficacy influences user behavioral adaptation and continuance intention. There is a strong association between happiness and plans to continue using chatbots among tourists' who are less anxious about technology (Pham et al., 2024). Thus, we propose the following hypothesis:

H6. Technical self-efficacy has a significant effect on GenAI chatbot continuance intention to use.

Perceived advantage and generative artificial intelligence chatbot continuance intention to use

The empirical findings of Selamat & Windasari (2021) essentially support the notion that customers' decision to use chatbots is shaped more by perceived enjoyment and usefulness than by anthropomorphism or ease of use. Previous studies have indicated a strong correlation between people's attitudes and their intentions to persist, as people frequently modify their current behavior in response to their feelings about a specific behavior (Liu et al., 2023). Tourists are more likely to demonstrate a higher tendency for continuing to use travel services if they have more positive sentiments of chatbots as a useful tool for information seeking, guiding, and aiding during their travel experiences (Pham et al., 2024).

Alagarsamy & Mehrolia (2023) contend that users' satisfaction is increased when they have confidence in chatbots that are motivated by technology acceptance, quality, risk, and individual factors which means that satisfaction with chatbot advantages could affect intention to use. However, other studies indicate that confidence in chatbots advantages not only improves users' attitudes toward them, but also directly promotes continuous use (Kasilingam, 2020). The degree of perceived advantages that tourists have with the travel services that chatbots offer influences the likelihood that they will continue to use AI-powered products for their future travel requirements (Yu et al., 2024). Social cognitive theory holds that expectations for future performance-related and personally advantageous consequences have an impact on a user's behavior (Gupta et al., 2024). Therefore, it stands to reason that tourists who express more satisfaction with chatbots' performance - that is, with their accuracy, responsiveness, or usefulness in offering guidance and support - will be more likely to continue utilizing chatbots for their travel-related questions and needs. Therefore, the following hypothesis is proposed:

H7. Perceived advantage has a significant effect on GenAI chatbot continuance intention to use.

Perceived personalization and generative artificial intelligence chatbot continuance intention to use

The impact of cognitive factors, including informativeness, interaction, personalization, and accessibility—on visitors' inclinations to return and their experiences with smart tourism technology was observed by Balakrishnan et al. (2023). Important conclusions about the variables influencing consumers' intent to use chatbots have also been drawn from a few earlier research projects. Kim et al. (2023), for example, discovered that travelers' intents to use chatbots were highly influenced by their prior usage experience. Still, travelers' intention to use chatbots decreased when they were exposed to system errors. GenAI can be used to customize travel plans to each individual's preferences and improve the management of hospitality businesses. These benefits have been shown for customer engagement and loyalty (Iskender, 2023), in the setting of ChatGPT, Baek & Kim (2023) indicated that task efficiency and personalization favorably increase continuance intention through the mediation of creepiness and trust. Personalization is expected to influence satisfaction and thus possibly change continuance intention. With personalization features that GenAI provides in hospitality and tourism, continuance intention could be increased (Park, 2014) to use GenAI chatbots. Social cognitive theory emphasizes how contextual beliefs and social learning influence behavioral decisions (Khan et al., 2024).

Therefore, the more GenAI chatbots provide personalized services to tourists, the more this will affect their positive beliefs about chatbots, which may be reflected in their continuance intention to use these technologies. Personalization significantly affects the continuance intention in social networking sites (Park, 2014). Kunze (2016) emphasized the value of personalized features that chatbots might offer users by customizing content and suggestions according to their preferences (perceived personalization), which reflects their continuance intention to use. This leads to the following hypothesis:

H8. Perceived personalization has a significant effect on GenAI chatbot continuance intention to use.

METHODOLOGY

Procedure and sample

A self-administered questionnaire was developed to collect data for research purposes (Veal, 2006). Only tourists in the United States of America who used the GenAI chatbot for booking hotels and travel purposes were considered for data collection. Our research employed a non-probability purposive sampling to conduct the current study. With a high level of participation, non-probability sampling could provide reliable data and high-quality findings (Elkhwesky et al., 2024).

Purposive sampling is widely adopted in hospitality and tourism research (e.g., Chen & Chen, 2015; Elkhwesky et al., 2023; Li & Ryan, 2018). Before the final survey, our research conducted a pilot study examining the construct's reliability and validity to further data collection. The pilot survey was conducted with 30 responses.

Later, the current study surveyed tourists in the United States of America who used the GenAI chatbot to book hotels and travel. An online platform (Prolific) (Parvez et al., 2024) was used and it took around a month (May 2024) to collect data. There was one skip-logic question to filter the respondents. *Do you have experience using the generative artificial intelligence chatbot to book hotels and travel?* If the answer was no, the respondents were out of the survey. We collected 450 valid questionnaires for the final statistical analysis. The response rate was 93.6%. A sample size of 200 and above is sufficient for analysis and model testing (Harrell, 1996; Rogers, 2020; Zweig, 1973).

Measures

The questionnaire has two sections (Appendix A., https://shorturl.at/9aJTw). The first section consisted of 23 questions related to the current study's variables. Seven items of *generative artificial intelligence chatbot strengths* were adopted from Ivanov et al. (2024) and three items of *perceived advantage* were extracted from Lee et al. (2013). In addition, six items of *technical self-efficacy* were extracted from Turja et al. (2019), four items of *perceived personalization* were from Baabdullah et al. (2022), and three items of *generative artificial intelligence chatbot continuance intention to use* were derived from Lalicic & Weismayer (2021). In all cases a Likert scale was used ranging from 1 (completely disagree) to 7 (completely agree). The second section included questions related to the participants' socio-demographic information.

Data analysis

To confirm the reliability of our analysis, we conducted a detailed assessment of the data. This included detecting and focusing on outliers and ultimate values, alongside validating the normality of data delivery. A significant interest in self-administered data collection is common method variance, which can artificially inflate correlations between variables and lead to misleading conclusions about the relationships between constructs (Podsakoff et al., 2003; Tehseen et al., 2017). While it is intriguing to eliminate common method variance (Ding et al., 2023) entirely, we utilized a common technique to evaluate its possible influence: Harman's one-factor test. This test determines whether a single factor explains more than 50% of the variance, indicating a significant common method variance issue (Tehseen et al., 2017). The partial least squares structural equation modeling analyzing procedure assessed hypothesis testing (Hair et al., 2019).

RESULTS

Socio-demographic characteristics of respondents

Table 1 shows the socio-demographic characteristics of the participants. Most of the participants are between 35 and 44 years old (38.0 %), followed by the 25-34 years age group (21.8 %). In terms of gender, 52.0 % are females and 45.8 % are males. In terms of employment, 21.6 % work full-time, 18.0 % are students, and 17.6 % work from home. Regarding marital status, 42.9 % are widowed and 27.8 % have never been married. Concerning education, 31.8% have a bachelor's degree and 26.9% have a college degree.

Table 1. Socio-demographic characteristics

		Number	Percentage
Age	25-34	98	21.8
	35-44	171	38.0
	45-54	85	18.9
	55-64	51	11.3
	65+	34	7.6
	Prefer not to say	11	2.4
Gender	Male	206	45.8
	Female	234	52.0
Employment	Working full-time	97	21.6
	Working part-time	62	13.8
	Unemployed	62	13.8
	Work from home	79	17.6
	Student	81	18.0
	Retired	58	12.9
	Other	11	2.4
Marital Status	Married	3	0.7
	Living with partner	115	25.6
	Widowed	193	42.9
	Divorce	14	3.1
	Never been married	125	27.8
Education	High school	68	15.1
	College degree	121	26.9
	Associate degree	57	12.7
	Bachelor's degree	143	31.8
	Graduate or professional degree	56	12.5
	Prefer not to say	4	0.9

Evaluation of the measurement model

Data was analyzed through SmartPLS 4 software using the partial least squares method in a model of structural equations (Henseler et al., 2014). The two most important reasons for using the partial least squares technique in our research are the sparse restrictions on the normality of the data (Chin et al., 2003) and the possibility of evaluating the proposed model according to the variance explained, assessing the characteristics of the measurement model.

For these reasons, the present research approached this methodology. In the proposed model, the following main latent variables were included: GenAI chatbot strengths, perceived advantage, technical self-efficacy, perceived personalization, and GenAI chatbot continuance intention to use. First, the reliability of the scales was assessed through the measurement of the composite reliability. The recommended minimum value is 0.7 (Nunnally & Bernstein, 1994).

Reliability evaluates the stringency variables by measuring the latent variable (internal consistency). In our study, all values exceeded the recommended limits. Second, convergent validity was analyzed through the average variance extracted. The minimum value proposed by the literature is 0.5 (Fornell & Larcker, 1981).

The average variance extracted reveals the amount of variance that a construct obtains from its indicators, in relation to the amount of variance caused by measurement error. The threshold indicated above was also reached. Table 2 presents the results of composite reliability and the average variance extracted.

Table 2. Factor loadings, composite reliability, and average variance extracted

Construct	Items#	Factor loadings	P-value	Composite reliability (CR)	Average variance extracted (AVE)
GenAI chatbot strengths				**0.71**	**0.54**
	3	0.86	0.00		
	5	0.62	0.03		
Perceived advantage				**0.68**	**0.55**
	1	0.48	0.05		
	3	0.92	0.00		
Technical self-efficacy				**0.83**	**0.56**
	2	0.73	0.00		
	3	0.72	0.00		
	4	0.82	0.00		
	6	0.72	0.00		
Perceived personalization				**0.78**	**0.55**
	2	0.74	0.00		
	3	0.80	0.00		
	4	0.68	0.00		
GenAI chatbot continuance intention to use				-	-
	1	1.00	0.00		

Finally, the discriminant validity was analyzed to examine the different dimensions measured by each construct. Two methods were used in the partial least squares: (a) a Fornell-Larcker criterion analysis analyzing whether the correlations between the different dimensions are lower than the value of the square root of the average variance extracted (Fornell & Larcker, 1981), and (b) the Heterotrait-Monotrait ratio analysis measuring whether the correlations between pairs of constructs reach less than 0.9 (Henseler et al., 2014). Table 3 shows the results of both methods. In the case of the present study, the values were close to the values recommended in the scientific literature. In light of these findings, the discriminant validity in the model was considered satisfactory.

Table 3. Discriminant validity

	Perceived advantage	Perceived personalization	Technical self-efficacy	GenAI chatbot continuance intention to use	GenAI chatbot strengths
Perceived advantage	**0.735**	0.401	0.233	0.238	0.413
Perceived personalization	0.116	**0.744**	0.842	0.560	0.303
Technical self-efficacy	0.093	0.564	**0.750**	0.598	0.233
GenAI chatbot continuance intention to use	0.124	0.438	0.525	**1.000**	0.141
GenAI chatbot strengths	0.083	0.121	0.040	0.066	**0.749**

Evaluation of the structural model

The value of the standardized root mean square residual ratio (SRMR) (Henseler et al., 2014) was approached to contrast the difference between the observed correlation and the predicted correlation as an indicator of model fit. A value below 0.08 is considered acceptable. The model used in our research yields a value close to that threshold (SRMR=0.064). The relationship between GenAI chatbot strengths and perceived advantage (H1) was not statistically significant (β=0.079, p=0.209), as was the relationship between GenAI chatbot strengths and technical self-efficacy (H2) (β=0.040, p=0.511). However, GenAI chatbot strengths showed a significant relationship with perceived personalization (H3) (β=0.099, p=0.031). Technical self-efficacy evidenced a strong impact on perceived personalization (H4) (β=0.560,

p≤0.001) and on GenAI chatbot continuance intention to use (H6) (β=0.405, p≤0.001), suggesting its central role in the continued adoption of these technologies. Although the relationship between technical self-efficacy and perceived advantage (H5) was at the borderline of statistical significance (β=0.090, p=0.075), perceived advantage did not demonstrate a significant influence on GenAI chatbot continuance intention to use (H7) (β=0.062, p=0.230).

Finally, perceived personalization was confirmed to play a key role in GenAI chatbot continuance intention to use (H8), with a significant effect (β=0.202, p≤0.001). These findings highlight the importance of technical self-efficacy and perceived personalization as determinants of GenAI chatbot continuance intention to use.

In contrast, perceived advantage appears to have a more limited impact. Table 4 indicates the evaluation of the structural model (bootstrapping=5000). Figure 2 shows the results of the proposed research model.

Table 4. Evaluation of the structural model (bootstrapping=5000)

Hypotheses	Path coefficient	P-value	SRMR	Decision
H1. GenAI chatbot strengths → Perceived advantage	0.079	0.209		**Not supported**
H2. GenAI chatbot strengths → Technical self-efficacy	0.040	0.511		**Not supported**
H3. GenAI chatbot strengths → Perceived personalization	0.099**	0.031		**Supported**
H4. Technical self-efficacy → Perceived personalization	0.560****	0.000		**Supported**
H5. Technical self-efficacy → Perceived advantage	0.090*	0.075		**Supported**
H6. Technical self-efficacy → GenAI chatbot continuance intention to use	0.405****	0.000		**Supported**
H7. Perceived advantage → GenAI chatbot continuance intention to use	0.062	0.230		**Not supported**
H8. Perceived personalization → GenAI chatbot continuance intention to use	0.202****	0.000		**Supported**
Note: *p≤0.1 **p≤0.05 ***p≤0.01 ****p≤0.001			0.064	

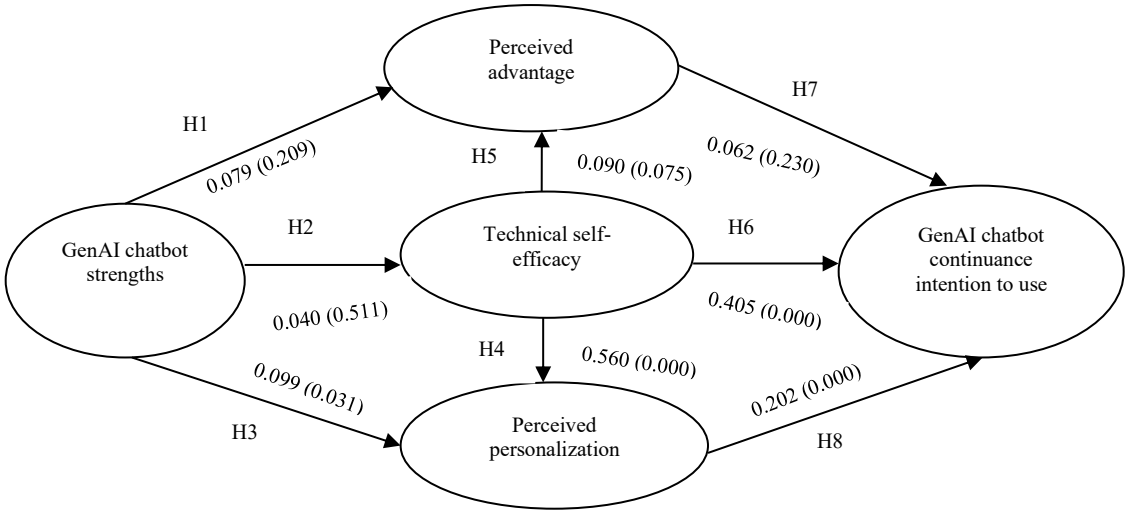

Figure 2. Results of the proposed research model

DISCUSSION AND CONCLUSIONS

The findings revealed varying degrees of influence among the hypothesized relationships, underscoring the differential roles of perceived advantage, technical self-efficacy, and perceived personalization. Specifically, the relationship between GenAI chatbot strengths and perceived personalization was statistically significant. This suggests that tourists associate GenAI with the ability to tailor experiences or outputs to their personal needs, a finding aligned with prior research emphasizing the adaptability and flexibility of artificial intelligence-driven tools (e.g., Wong et al., 2023).

This association may serve as a pivotal factor in user engagement (Verma & Kumari, 2023). Also, this relationship means that the ability of GenAI chatbot to answer follow-up questions and reject inappropriate requests (Ivanov et al., 2024) is significant for users to perceive personalization. Personalization makes for a more memorable and individualized customer service experience (Liu et al., 2024). Our findings affirmed that technical self-efficacy had the strongest effects in the model. It significantly influenced perceived personalization, perceived advantage, and GenAI chatbot continuance intention to use. This underscores the importance of tourists' confidence in their technical skills when interacting with GenAI chatbot. A high sense of self-efficacy empowers tourists to effectively navigate and derive value and advantage from GenAI chatbot, ultimately encouraging sustained use. Our findings are in line with previous research that indicated the importance of technical self-efficacy on intention to use artificial intelligence technologies (e.g., Jiang et al., 2022; Khan et al., 2024; Kim & Beehr, 2017; Wu et al., 2012).

Contrary to expectations, perceived advantage showed a limited impact in our model. The relationship between GenAI chatbot strengths and perceived advantage was not significant, and perceived advantage did not significantly

influence GenAI chatbot continuance intention to use. These results suggest that users may not prioritize the comparative benefits of GenAI chatbot over other tools, focusing instead on more immediate and tangible factors like personalization and usability. Our findings are inconsistent with Selamat and Windasari (2021) who affirmed that usefulness affects customers' decision to use chatbots.

The direct effect of perceived personalization on GenAI chatbot continuance intention to use indicated that tourists value technologies that align with their preferences and individual needs. This finding reinforces the importance of designing GenAI tools that emphasize user-centric features to ensure ongoing engagement (Iskender, 2023).

Our finding is in line with Baek & Kim (2023) and Kunze (2016), who affirmed the importance of perceived personalization in the continuance of the use of GenAI technologies. Alalwan et al. (2020) affirmed that personalization is one of the most engaging aspects of chatbots that provide customers with a distinctive and appealing experience.

In conclusion, it should be noted that GenAI chatbot's perceived advantages may not be the primary driver of user engagement or continuance intention to use. Instead, our findings hint at the complexity of user perceptions, where intrinsic factors such as confidence (self-efficacy) and experiential benefits (personalization) outweigh traditional perceptions of technological superiority.

Theoretical contributions

The current study makes a valuable contribution by highlighting the nuanced role of technical self-efficacy and perceived personalization. Our research adds to the social cognitive theory (Guan et al., 2024; Gupta et al., 2024; Khan et al., 2024) by confirming that technical self-efficacy and perceived personalization have a positive and significant effect on GenAI chatbot continuance intention to use. In addition, technical self-efficacy has a critical role in enhancing perceived personalization and perceived advantage related to GenAI chatbots.

The current paper responds to recent calls to explore the use of GenAI technologies such as chatbots in hospitality and tourism-related activities (e.g., Kim et al., 2024; Law et al., 2024; Wong et al., 2023). Tourists' satisfaction and their continuance intention to use chatbots in hospitality and tourism have received little attention in existing research (Pham et al., 2024). It is essential to comprehend not only early adoption but also user pleasure and ongoing usage throughout time in order to fully grasp GenAI potential (Duong et al., 2024).

Practical implications

Organizations developing GenAI chatbots should prioritize initiatives that enhance user confidence, such as intuitive design, user training, and support systems. By fostering technical self-efficacy, these efforts can drive continued engagement. Designers of GenAI tools such as chatbots should highlight and enhance personalization features, as they directly impact user retention. Tailoring outputs to individual needs can provide a competitive edge in a crowded market. Designers and developers should improve chatbots that provide tourists with accurate answers (Wong et al., 2023) and personalized recommendations along with visual aids like pictures, videos, and virtual tours of suggested destinations (Dwivedi et al., 2024). While perceived advantage was not a strong driver in our study, effectively communicating the unique benefits of GenAI tools such as chatbots compared to traditional methods or competing technologies could influence broader adoption. Given the centrality of technical self-efficacy, tools targeting less technologically confident users might require additional support mechanisms, whereas those aimed at technically proficient users could emphasize advanced customization features.

Hospitality and tourism authorities should provide financial and information support for designers of GenAI technologies such as chatbots because chatbots could offer recommendations for booking inquiries (Bulchand-Gidumal et al., 2024), making reservations for accommodation and other facilities (Kim et al., 2024), and providing advices for travel places and tourism sites together with immediate and tailored information (Carvalho & Ivanov, 2024). This could help the hospitality and tourism industries achieve profitability and growth (Mariani & Baggio, 2022).

Limitations and lines for future research

Our study has certain limitations that indicate future research avenues. Our research examined the relationships among the strengths of GenAI chatbots, perceived advantage, technical self-efficacy, perceived personalization, and the intention to continue using GenAI chatbots. A survey was directed to gather data from tourists residing in the United States of America. Future research should explore how our study's constructs interact over time and across different user demographics. The limited role of perceived advantage calls for a reevaluation of its place in adoption models. Researchers may consider examining whether other constructs such as perceived ease of use or trust, mediate its relationship with continuance intention. The significant relationships involving personalization suggest that context-specific factors (e.g., industry and task complexity) could modulate user perceptions.

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